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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/696,070

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Sung Kwon Hong

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EXAMINER

PHU, PHUONG M

ART UNIT

PAPER NUMBER

2611

MAIL DATE

DELIVERY MODE

05/22/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/696,070

Applicant(s)

HONG, SUNG KWON

Examiner

Phuong Phu

Art Unit

2611

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 April 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4, 6-14 and 16-19 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3 and 10-13 is/are rejected.
- 7) ☒ Claim(s) 4, 6-9, 14 and 16-19 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 1/5/07.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

1. This Office Action is responsive to the Amendment filed on 4/17/07. Accordingly, claims 1-4, 6-14 and 16-19 are currently pending; and claims 5 and 15 are canceled.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claim 10 is rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential structural cooperative relationships of elements, such omission amounting to a gap between the necessary structural connections. See MPEP § 2172.01.

Claim 10, lines 6-8, recites the limitation “a *symbol* is mapped to a *signal point* in which bits are identical with the bits consisting of the symbol on an IQ plane, when the symbol has no DTX bits”. The claim omits procedure(s) showing how the element “symbol” is formed or generated in the claimed transmitter; and omits the functional interrelationship of elements “symbol” and “signal point” with the operations of elements “transport channel multiplexer”, “DTX insertion module”, “physical channel segmentation module”, “interleaver” and/or “physical channel mapping module”, recited in the claim, in order for making the claimed transmitter as a complete operative device.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1-3 and 11-13 are rejected under 35 U.S.C. 102(b) as being anticipated by Takano et al (WO 02/065723) (newly-cied), (hereafter, refer to EP1271874, provided in the IDS filed on 1/5/07, as its English translation).

-Regarding to claim 1, see figures 3, 6 and 7, and col. 5, line 20 to col. 6, line 25, Takano et al discloses a discontinuous transmission (DTX) bit processing method (see figure 3) comprising:

procedure (13) of receiving a symbol;

procedure (13) of determining whether the symbol comprises at least one DTX bit “dummy bit” (see col. 6, lines 14-25);

procedure (13) of mapping the symbol to a predetermined mapping point (S) on an IQ plane (see col. 6, lines 14-25), wherein the symbol can be mapped to a signal point in which bits are identical with the bits consisting of the symbol in the IQ plane when the symbol has no DTX bits, (e.g, see figure 6, symbol (1011) can be mapped to (1011) in the IQ plane);

procedure (13) of minimizing a transmission power level if the symbol has at least one DTX bit (see col. 6, lines 14-25); and

procedure of (comprising (13)) transmitting the symbol in the transmission power level of the mapping point (see col. 6, lines 14-25).

-Regarding to claim 2, Takano et al teaches that the mapping point is calculated by signal points, (considered here equivalent with the limitation “average signal points”), in which bits corresponding to non-DTX bits of the symbol can be identical, (considered here equivalent with the limitation “approximately identical”), with each other on the IQ plane (see figure 6, col. 6, lines 1-6).

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-Regarding to claim 3, Takano et al teaches that the mapping point is set in consideration of a number of the selected signal points, and locations of the selected signal points on the IQ plane (see figure 7, col. 6, lines 14-21).

-Regarding to claim 11, as similarly applied to claims 1-3 set forth above and herein incorporated, see figures 3, 6 and 7, and col. 5, line 20 to col. 6, line 25, Takano et al discloses a discontinuous transmission (DTX) bit processing system (see figure 3) comprising:

means (included in (13)) for receiving a symbol;

means (included in (13)) for determining whether the symbol comprises at least one DTX bit;

means (included in (13)) for mapping the symbol to a predetermined mapping point (S) on an IQ plane wherein the symbol can be mapped to a signal point in which bits are identical with the bits consisting of the symbol in the IQ plane when the symbol has no DTX bits;

means (included in (13)) for minimizing a transmission power level if the symbol has at least one DTX bit; and

means (comprising (13)) for transmitting the symbol in the transmission power level of the mapping point.

-Claim 12 is rejected with similar reasons set forth for claim 2.

-Claim 13 is rejected with similar reasons set forth for claim 3.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person

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having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claim 10 is rejected under 35 U.S.C. 102(e) as being anticipated by Willengger (6,996,069), previously cited, in view of Takano et al.

-Regarding to claim 10, see figure 2A, and col. 4, lines 9-66, Willengger discloses a system (see figure 2A) comprising:

a transport channel (TrCH) multiplexer (232) for multiplexing radio frames from a plurality of transport channels into a composite transport channel (CCTrCH);

a discontinuous transmission (DTX) insertion module (234) for inserting DTX bits into the radio frames of the CCTrCH;

a physical channel segmentation module(236) for segmenting the CCTrCH for different physical channels (PhCHs) to produce a plurality of segments;

an interleaver (238) for interleaving the segments; and

a physical channel mapping module (240) for mapping the segments to the corresponding PhCHs.

Willengger does not teach that a symbol is mapped to a signal point in which are identical with the bits consisting of the symbols on an IQ plane, when the symbol has no DTX, as claimed.

However, Willengger teaches that the signals outputted from the physical channel mapping module (240) would be modulated/mapped to generate corresponding modulated signals for transmission (see col. 4, line 63 to col. 5, line 2).

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Takano et al teaches a modulation/mapping (13) (see figure 3) for modulating/mapping signals comprising DTX bits to modulation symbol signals for transmission (see col. 6, lines 14-25).

Since Willengger does not teach in detail how the modulated signals are generated, it would have been obvious for one skilled in the art to implement Willengger in such a way that the signals outputted from the physical channel mapping module (240) would be modulated/mapped by a modulation/mapping, as taught by Takano et al, to generate modulation symbol signals as the modulated signals so that with such the implementation, the modulated signals would be generated as required.

With such the implementation, Willengger in view of Takano et al further teaches that a symbol is mapped to a signal point in which are identical with the bits consisting of the symbols on an IQ plane, when the symbol has no DTX, (e.g, see Takano et al, figure 6, symbol (1011) can be mapped to (1011) in the IQ plane).

Allowable Subject Matter

8. Claims 4, 6-9, 14 and 16-19 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Arguments

9. Applicant's arguments filed 4/17/07 have been fully considered. The previous objection and rejection have been withdrawn.

The previous objection to the Oath/Declaration has been withdrawn since the applicant filed a new Oath/Declaration and it was accepted.

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Claims 4, 6-9, 14 and 16-19 are indicated allowable as set forth above.

Claims 1-3, 10-13, however, are deemed not allowable because of reasons set forth above in this Office Action.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Phuong Phu whose telephone number is 571-272-3009. The examiner can normally be reached on M-F (8:00 AM - 4:30 PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jay Patel can be reached on 571-272-2988. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

PHUONG PHU
PRIMARY EXAMINER

Phuong Phu
Phuong Phu
05/17/07

Phuong Phu
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Art Unit 2611